

### **REMARKS**

This communication responds to the Office Action mailed on January 23, 2008. Claims 1, 7, 11, 14-15, 18-19, 22 and 27 are amended; claims 5-6, 12, 16-17, 20-21, 23-26 and 28-29 are canceled; and no claims are added. As a result, claims 1-4, 7-11, 13-15, 18-19, 22 and 27 are now pending in this Application.

#### **Objections to the Specification**

The Office objected to the Abstract. It is believed that the amendment made herein to the Abstract obviates the objection. Reconsideration and withdrawal of the objection is respectfully requested.

#### **Objections to the Claims**

An objection was raised to claims 17 and 20 due to informalities. Applicant respectfully requests the Office to clarify whether claim 20 or claim 29 was objected to. Applicant believes that the Office intended to object to claims 17 and 29 (rather than claim 20), because the Office referred to claims 17 and 29 in parentheses on page 2, paragraph 2, line 3, and claims 17 and 29 (rather than claim 20) include the objected limitations “a number of substantially simultaneous tones less than or equal to a maximum number of the substantially simultaneous bits”.

Applicant has canceled claims 17 and 29, and has respectively incorporated the limitations of claims 17 and 29 into independent claims 15 and 27, in which the phrase “**less than or equal to**” is replaced by “**not greater than**”. Thus, the intended objection to claims 17 and 29 is now moot.

#### **§102 Rejection of the Claims**

Claims 1-5, 15-16, 18, 27 and 28 were rejected under 35 USC § 102(e) as being anticipated by Rogerson et al. (U.S. 2003/0099299, hereinafter “Rogerson”). Applicant does not admit that Rogerson is prior art and reserves the right to swear behind this reference at a later date. In addition, because the Office has not properly established a *prima facie* case of anticipation, the Applicant respectfully traverses this rejection of the claims.

Anticipation under 35 USC § 102 requires the disclosure in a single prior art reference of each element of the claim under consideration. *See Verdegaal Bros. V. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ 2d 1051, 1053 (Fed. Cir. 1987). It is not enough, however, that the prior art reference discloses all the claimed elements in isolation. Rather, “[a]nticipation requires the presence in a single prior reference disclosure of each and every element of the claimed invention, *arranged as in the claim.*” *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 221 USPQ 481, 485 (Fed. Cir. 1984) (citing *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 220 USPQ 193 (Fed. Cir. 1983)) (emphasis added). “The *identical invention* must be shown in as complete detail as is contained in the ... claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989); MPEP § 2131 (emphasis added).

Applicant has amended claim 1, which recites as follows (with emphasis added):

1. An apparatus, including:

a multi-bit encoder coupled to a multi-tone generator to provide a multi-tone communications signal having a substantially simultaneous multi-tone signaling bandwidth of greater than about 20 percent of an associated carrier frequency,

**wherein the multi-tone generator is to generate a plurality of tones responsive to data from the multi-bit encoder, and the plurality of tones includes a number of tones greater than a number of possible states of the data.**

The Office does not point out and Applicant could not find any parts of Rogerson that disclose the limitation **“the multi-tone generator is to generate a plurality of tones responsive to data from the multi-bit encoder, and the plurality of tones includes a number of tones greater than a number of possible states of the data”** as recited in amended claim 1.

Accordingly, Applicant submits that Rogerson does not teach the identical invention claimed, no *prima facie* case of anticipation has been established to amended claim 1, and thus Rogerson does not anticipate amended claim 1. The argument with respect to amended independent claim 1 also applies to claims 2-4, which depends on amended independent claim 1. Thus, for at least the same reasons presented with respect to amended independent claim 1, Rogerson does not anticipate claims 2-4 either.

Applicant has also amended claim 15, which recites as follows (with emphasis added):

15. A method, including:  
    translating a first bit stream into a multi-tone communications signal having a substantially simultaneous multi-tone signaling bandwidth of greater than about 20 percent of an associated carrier frequency;  
    translating the first bit stream into a second bit stream having data presented as one or more groups of substantially simultaneous bits; and  
    **translating the second bit stream into the multi-tone communications signal comprising a number of substantially simultaneous tones not greater than a maximum number of the substantially simultaneous bits.**

The Office does not point out and Applicant could not find any parts of Rogerson that disclose the claimed limitation “**translating the second bit stream into the multi-tone communications signal comprising a number of substantially simultaneous tones not greater than a maximum number of the substantially simultaneous bits**”, which was originally recited in canceled claim 17. Accordingly, Applicant submits that Rogerson does not teach the identical invention claimed, no *prima facie* case of anticipation has been established to amended independent claim 15, and thus Rogerson does not anticipate amended independent claim 15. This argument also applies to claim 18, which depends on amended independent claim 15.

For at least the same reasons presented with respect to amended independent claim 15, Applicant submits that Rogerson does not anticipate amended independent claim 27, which includes similar limitations to amended independent claim 15.

Accordingly, reconsideration and withdrawal of the rejections to claims 1-4, 15, 18 and 27 under § 102(c) are thus respectfully requested.

### §103 Rejection of the Claims

Claims 7, 9, 19, 20, 22, 23, 25 and 26 were rejected under 35 USC § 103(a) as being unpatentable over Kamerman et al. (U.S. 5,636,247, hereinafter “Kamerman”) in view of Mizuno et al. (U.S. 4,566,100, hereinafter “Mizuno”). Claim 8 was also rejected under 35 USC § 103(a) as being unpatentable over Kamerman in view of Mizuno and further in view of McRae et al. (U.S. 3,732,495, hereinafter “McRae”). Claim 10 was also rejected under 35 USC § 103(a) as being unpatentable over Kamerman in view of Mizuno and further in view of Okumura et al. (U.S. 2002/0031066, hereinafter “Okumura”). Claims 11 and 13 were also rejected under 35

USC § 103(a) as being unpatentable over Rogerson in views of Kamerman and Mizuno, and further in view of O'Neill (U.S. 5,559,866, hereinafter "O'Neill"). Claims 6 and 14 were also rejected under 35 USC § 103(a) as being unpatentable over Rogerson in view of Kamerman, Mizuno and O'Neill, and further in view of Wanchoo et al. (U.S. 4,713,622, hereinafter "Wanchoo"). Claims 21 and 24 were also rejected under 35 USC § 103(a) as being unpatentable over Kamerman in view of Mizuno and further in view of Sayeed (U.S. 2002/0186799, hereinafter "Sayeed"). Applicant does not admit that Kamerman, Mizuno, McRae, Okumura, O'Neill, Wanchoo, or Sayeed are prior art, and reserves the right to swear behind these references in the future. In addition, since the Office has not properly established a *prima facie* case of obviousness in each case, the Applicant respectfully traverses these rejections.

The Examiner has the burden under 35 U.S.C. § 103 to establish a *prima facie* case of obviousness. *In re Fine*, 837 F.2d 1071, 1074 (Fed. Cir. 1988). To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. M.P.E.P. §2143.03 (citing *In re Royka*, 490 F.2d 981 (CCPA 1974)). "Mere identification in the prior art of each element is insufficient to defeat the patentability of the combined subject matter as a whole." *In re Kahn*, 2006 WL 708687, \*9 (Fed. Cir. 2006).

Applicant has amended independent claim 11 by incorporating the limitations of claim 12, which was indicated to be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, and thus believes that amended independent claim 11 and its dependent claims 13 and 14 are allowable.

Applicant has also amended independent claim 7 by incorporating a limitation similar to the limitation of original claim 12, which was indicated to be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, and thus believes that amended independent claim 7 and its dependent claims 8-10 are also allowable.

Applicant has also amended claim 19, which recites as follows (with emphasis added):

19. A method, including:

receiving a multi-tone communications signal at a plurality of phasor detectors to determine a presence of a number of substantially simultaneous tones included in a multi-tone communications signal;

**amplifying the multi-tone communications signal using an approximately equal gain prior to the comparing;  
comparing a combined amount of two measured orthogonal signal components in at least one of the number of substantially simultaneous tones to a threshold value;  
receiving multiple indications of the presence of the plurality of tones from a plurality of phasor detectors; and  
determining a received data output corresponding to the multiple indications.**

Applicant submits that the cited references fail to teach each and every limitation of the amended independent claim 19, and thus do not render amended independent claim 19 obvious. The Office does not point out which parts of the cited references that teach the highlighted elements of amended claim 19. This argument also applies to amended independent claim 22, which includes similar limitations to amended independent claim 22.

Accordingly, reconsideration and withdrawal of the rejections to claims 7-11, 13-14, 19 and 22 under § 103(a) are thus respectfully requested.

#### *Allowable Subject Matter*

Claim 12 was objected to as being dependent upon a rejected base claim, but was indicated to be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Applicant has amended claim 11 by incorporating the limitations of claim 12, which was indicated to be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, and thus believes that amended claim 11 is allowable.

#### **RESERVATION OF RIGHTS**

In the interest of clarity and brevity, Applicant may not have addressed every assertion made in the Office Action. Applicant's silence regarding any such assertion does not constitute any admission or acquiescence. Applicant reserves all rights not exercised in connection with this response, such as the right to challenge or rebut any tacit or explicit characterization of any reference or of any of the present claims, the right to challenge or rebut any asserted factual or legal basis of any of the rejections, the right to swear behind any cited reference such as provided

under 37 C.F.R. § 1.131 or otherwise, or the right to assert co-ownership of any cited reference. Applicant does not admit that any of the cited references or any other references of record are relevant to the present claims, or that they constitute prior art. To the extent that any rejection or assertion is based upon the Examiner's personal knowledge, rather than any objective evidence of record as manifested by a cited prior art reference, Applicant timely objects to such reliance on Official Notice, and reserves all rights to request that the Examiner provide a reference or affidavit in support of such assertion, as required by MPEP § 2144.03. Applicant reserves all rights to pursue any cancelled claims in a subsequent patent application claiming the benefit of priority of the present patent application, and to request rejoinder of any withdrawn claim, as required by MPEP § 821.04.

### **CONCLUSION**

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone the Applicant's attorney at (210) 308-5677 to facilitate prosecution of this Application. If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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